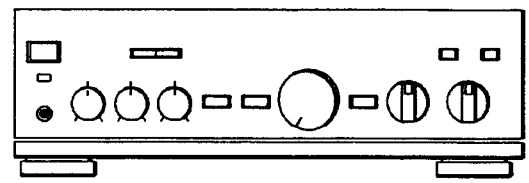
S/M Code No.91 – 036 DATE OF ISSUE 5/1991

AIWA®

XA-008

SERVICE MANUAL



STEREO INTEGRATED AMPLIFIER

• TYPE. H,E,K,Z

SPECIFICATIONS

Common

Power requirements
XA-008H
AC 120V/220V/240V
switchable, 50/60Hz
XA-008E, Z
AC 220V, 50Hz
XA-008K
AC 240V, 50Hz

Power consumption
XA-008H 160W
XA-008E, K, Z 450W

Power amplifier

Effective output power
105W+105W
(4ohms, T.H.D. 0.9%, 1kHz)
72W+72W
(8ohms, T.H.D. 0.9%,1kHz)

Total harmonic distortion
0.006%
(20Hz–20kHz, 50W, 8ohms)

Output bandwidth
6Hz–70kHz (less than 0.05%)
[Both channels driven, 8ohms]

Frequency response
5Hz–100kHz (+0.5/–3dB)

Preamplifier

S/N ratio IHF A curve short circuited
PHONO:
MM 94dB (5mV input)
MC 75dB (0.5mV input)
TUNER, CD, VCR/AUX, TAPE/DAT 108dB

Input jacks (Sensitivity/input impedance)
PHONO:
MM 2.5mV/47kohms
MC 0.2mV/100ohms
TUNER, CD, VCR/AUX, TAPE/DAT 150mV/47kohms

PHONO overload level
90mV (MM)
[1kHz, T.H.D 0.01%]

Output jacks (Level/output impedance)
TAPE/DAT 150mV/47kohms
Headphones 8–32ohms
Speakers 4–16ohms
(A+B: 8–16ohms)

RIAA deviation ±0.5dB (30Hz–15kHz)

SUBSONIC filter 16Hz 12dB/Oct

Maximum dimensions (w/h/d)) 430 × 128 × 332mm
(17 × 5⅛ × 13⅛inches)

Weight 8.3kg (18.26lbs)

• Design and specifications are subject to change without notice.

AIWA Co., Ltd.

Tokyo Japan

Printed in Japan

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
===IC===		
	87-001-171-010	IC, NJM2068D
	87-027-787-010	IC, UPC1237H
===TRANSISTOR===		
	89-110-155-010	TRANSISTOR, 2SA1015GR
	89-111-453-010	TRANSISTOR, 2SA1145D
	81-AA2-650-010	TRANSISTOR, 2SA1301 BND
	89-113-583-410	TRANSISTOR, 2SA1358
	89-109-705-010	TRANSISTOR, 2SA970GR
	89-213-302-010	TRANSISTOR, 2SB1330
	89-318-155-010	TRANSISTOR, 2SC1815GR
	89-322-405-010	TRANSISTOR, 2SC2240GR
	89-327-053-010	TRANSISTOR, 2SC2705(O)
	81-AA2-651-010	TRANSISTOR, 2SC3280 BND
	89-333-296-010	TRANSISTOR, 2SC3329BL
	89-334-194-010	TRANSISTOR, 2SC3419Y
	89-334-213-410	TRANSISTOR, 2SC3421
	89-420-062-380	TRANSISTOR, 2SD2006
	87-026-369-010	TRANSISTOR, RN1207
===DIODE===		
	87-001-783-010	DIODE, 1N4002-T
	87-020-110-010	DIODE, 1SS177
	87-002-439-010	DIODE, D5SB20-4003
	87-020-123-010	DIODE, DS46-AT
	87-027-449-010	DIODE, ZENER HZ15-3L
===MAIN CIRCUIT BOARD SECTION===		
C11	★87-018-121-010	CAP, CERA-SOL U 150P-50 B(Z)
C12	★87-018-121-010	CAP, CERA-SOL U 150P-50 B(Z)
C15	★87-018-121-010	CAP, CERA-SOL U 150P-50 B(Z)
C16	★87-018-121-010	CAP, CERA-SOL U 150P-50 B(Z)
C49	★87-010-263-010	CAP, ELECT 100-10
C50	★87-010-263-010	CAP, ELECT 100-10
C63	★87-010-405-010	CAP, ELECT 10-50 SME
C64	★87-010-405-010	CAP, ELECT 10-50 SME
C65	★87-018-131-010	CAP, CERA-SOL U 1000P-50 B
C66	★87-010-762-010	CAP, ELECT 220-10V BP
C68	★87-010-404-010	CAP, ELECT 4.7-50 SME
C69	★87-010-260-010	CAP, ELECT 47-25 SME
C70	★87-010-401-010	CAP, ELECT 1-50 SME
C73	★87-018-131-010	CAP, CERA-SOL U 1000P-50 B
C74	★87-018-131-010	CAP, CERA-SOL U 1000P-50 B
C201	★87-010-945-010	CAP, ELECT 10000-56LQ
C202	★87-010-945-010	CAP, ELECT 10000-56LQ
C203	★87-010-397-019	CAP, ELECT 1000-35 SME
C204	★87-010-397-019	CAP, ELECT 1000-35 SME
C205	★87-010-260-010	CAP, ELECT 47-25 SME
C206	★87-010-260-010	CAP, ELECT 47-25 SME
C207	★87-010-260-010	CAP, ELECT 47-25 SME
C208	★87-010-260-010	CAP, ELECT 47-25 SME
C209	★87-010-260-010	CAP, ELECT 47-25 SME
C210	★87-010-260-010	CAP, ELECT 47-25 SME
C235	★87-010-430-010	CAP, ELECT 100-63
C236	★87-010-430-010	CAP, ELECT 100-63
C241	★87-010-430-010	CAP, ELECT 100-63
C242	★87-010-430-010	CAP, ELECT 100-63
C301	★87-018-121-010	CAP, CERA-SOL U 150P-50 B(Z)
C302	★87-018-121-010	CAP, CERA-SOL U 150P-50 B(Z)
C305	★87-018-127-019	CAP, CERA-SOL U 470P-50 B(Z)
C306	★87-018-127-019	CAP, CERA-SOL U 470P-50 B(Z)
C400	★87-018-119-010	CAP, CERA-SOL U 100P-50 B(Z)
J102	★87-009-395-010	JACK PIN 6P EARTH(TUNER)(CD) (VCR/AUX)
J103	★87-009-392-010	JACK PIN 6P(LINE IN)(LINE OUT) (REC OUT 2)
J104	★87-009-392-010	JACK PIN 6P(PLAY 1)(PLAY 2) (REC OUT 1)
L1	★87-005-158-010	COIL, 1UH
L2	★87-005-158-010	COIL, 1UH
R97	★87-025-479-019	RES, NF 100-1/4WJ
R98	★87-025-479-019	RES, NF 100-1/4WJ
R103	★87-025-333-010	RES, NF 56-1/4W
R104	★87-025-333-010	RES, NF 56-1/4W
⚠R115	87-029-130-010	RES, FUSE 220-1W
⚠R116	87-029-130-010	RES, FUSE 220-1W
R117	★87-025-434-010	RES, CEMENT 0.22-5W
R118	★87-025-434-010	RES, CEMENT 0.22-5W
R119	★87-025-434-010	RES, CEMENT 0.22-5W
R120	★87-025-434-010	RES, CEMENT 0.22-5W
R123	★87-025-347-010	RES, M/O 10-2W F
R124	★87-025-347-010	RES, M/O 10-2W F
R125	★87-025-487-019	RES, M/F 10-1W
R126	★87-025-487-019	RES, M/F 10-1W
R201	★87-025-333-010	RES, NF 4.7-1/4WJ
R202	★87-025-333-010	RES, NF 4.7-1/4WJ
R205	★87-025-479-019	RES, NF 680-1/4WJ
R206	★87-025-479-019	RES, NF 680-1/4WJ
R207	★87-025-333-010	RES, NF 4.7-1/4WJ
R208	★87-025-333-010	RES, NF 4.7-1/4WJ
R227	★87-025-479-019	RES, NF 100-1/4WJ
R228	★87-025-479-019	RES, NF 100-1/4WJ
R243	★87-025-467-010	RES, NF 1-1/4WJ
R244	★87-025-467-010	RES, NF 1-1/4WJ
RY1	87-045-316-010	RELAY, VB-245MBU-SP
S1	80-AA1-633-010	SW, ROTARY(FUNCTION)
S8	80-AA1-634-110	SW, PUSH(SPEAKER A)
S9	80-AA1-634-110	SW, PUSH(SPEAKER B)
S16	80-AA1-633-010	SW, ROTARY(REC OUT)
SFR1	★87-024-171-019	SFR 4.7K
SFR2	★87-024-171-019	SFR 4.7K
T101	★87-033-222-010	TERMINAL, SPEAKER 8P HOLE(SPEAKERS) (H, E, Z)
T101	★87-033-210-010	TERMINAL, SPEAKER 8P(SPEAKERS)(K)
===SUB CIRCUIT BOARD SECTION===		
C1	★87-018-131-010	CAP, CERA-SOL U 1000P-50 B
C2	★87-018-131-010	CAP, CERA-SOL U 1000P-50 B
C3	★87-010-403-019	CAP, ELECT 3.3-50 SME
C4	★87-010-403-019	CAP, ELECT 3.3-50 SME
C19	★87-018-045-019	CAP, CERA-SOL S 2200P-25 X
C20	★87-018-045-019	CAP, CERA-SOL S 2200P-25 X
C21	★87-010-101-019	CAP, ELECT 220-16 SME
C22	★87-010-101-019	CAP, ELECT 220-16 SME
C23	★87-010-402-019	CAP, ELECT 2.2-50 SME
C24	★87-010-402-019	CAP, ELECT 2.2-50 SME
C31	★87-010-260-010	CAP, ELECT 47-25 SME
C32	★87-010-260-010	CAP, ELECT 47-25 SME
C37	★87-018-121-010	CAP, CERA-SOL U 150P-50 B
C38	★87-018-121-010	CAP, CERA-SOL U 150P-50 B
C39	★87-010-404-019	CAP, ELECT 4.7-50 SME
C40	★87-010-404-019	CAP, ELECT 4.7-50 SME
C41	★87-010-260-010	CAP, ELECT 47-25 SME
C42	★87-010-260-010	CAP, ELECT 47-25 SME
C43	★87-010-260-010	CAP, ELECT 47-25 SME
C44	★87-010-260-010	CAP, ELECT 47-25 SME
C71	★87-010-381-010	CAP, ELECT 330-16 SME
C72	★87-010-381-010	CAP, ELECT 330-16 SME
C92	★87-018-131-010	CAP, CERA-SOL U 1000P-50 B
C95	★87-018-123-019	CAP, CERA-SOL U 220P-50 B(Z)
C221	★87-018-119-010	CAP, CERA-SOL U 100P-50 B(H, Z)
C221	★87-018-125-019	CAP, CERA-SOL U 330P-50 B(E, K)
C222	★87-018-119-010	CAP, CERA-SOL U 100P-50 B(H)
C222	★87-018-125-019	CAP, CERA-SOL U 330P-50 B(E, K, Z)

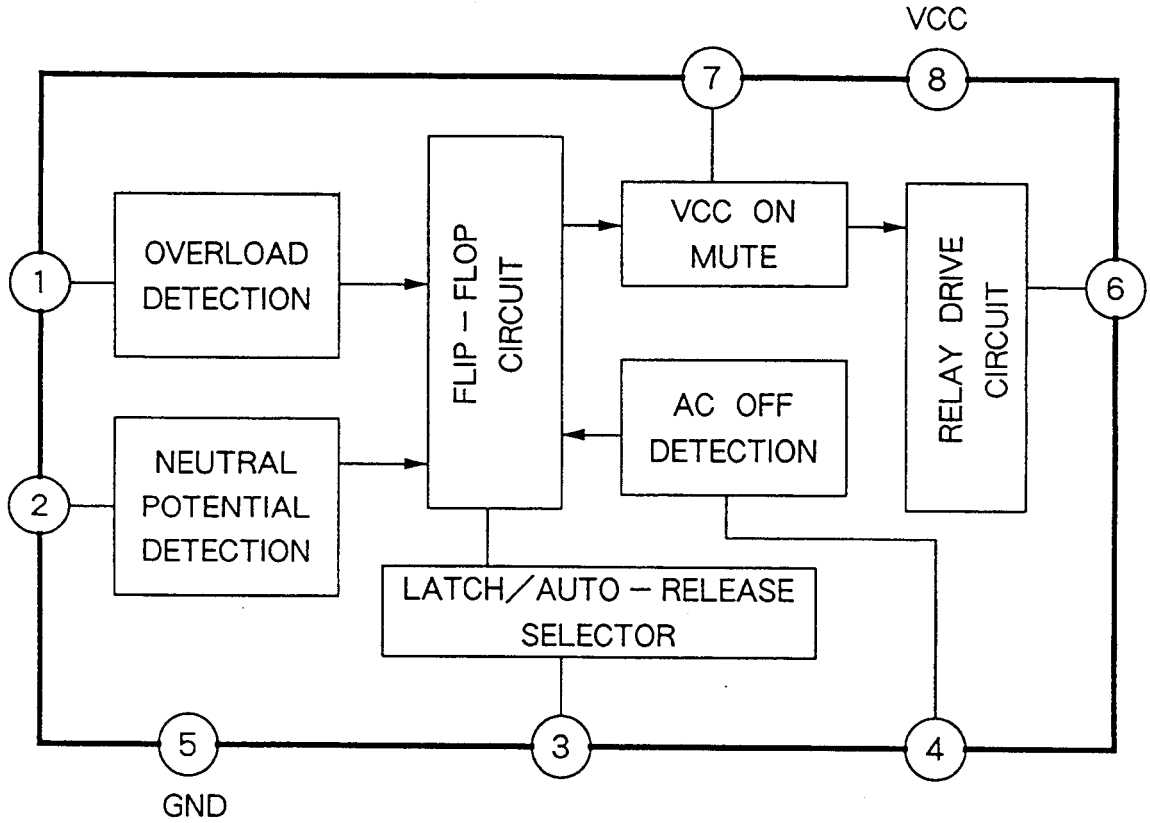
REF. NO.	PART NO.	DESCRIPTION
J101	★87-009-414-010	JACK PIN 2P(PHONO)
L3	★87-005-154-010	COIL, 220UH(Z)
L4	★87-005-154-010	COIL, 220UH(Z)
L5	★87-005-154-010	COIL, 220UH(Z)
L6	★87-005-154-010	COIL, 220UH(Z)
S14	81-AA2-630-010	PUSH SW(SUBSONIC)
S15	89-AA1-633-010	PUSH SW(MM/MC)
	===FRONT CIRCUIT BOARD SECTION===	
C151	★87-018-126-010	CAP, CERA-SOL U 390P-50 B
C152	★87-018-126-010	CAP, CERA-SOL U 390P-50 B
C155	★87-010-401-010	CAP, ELECT 1-50 SME
C156	★87-010-401-010	CAP, ELECT 1-50 SME
C157	★87-018-109-010	CAP, CERA-SOL U 22P-50 SL
C158	★87-018-109-010	CAP, CERA-SOL U 22P-50 SL
C159	★87-010-403-010	CAP, ELECT 3.3-50 SME
C160	★87-010-403-010	CAP, ELECT 3.3-50 SME
C167	★87-018-123-010	CAP, CERA-SOL U 220P-50 B
C168	★87-018-123-010	CAP, CERA-SOL U 220P-50 B
C171	★87-010-260-010	CAP, ELECT 47-25 SME
C172	★87-010-260-010	CAP, ELECT 47-25 SME
C173	★87-010-404-010	CAP, ELECT 4.7-50 SME
C174	★87-010-404-010	CAP, ELECT 4.7-50 SME
C175	★87-018-109-010	CAP, CERA-SOL U 22P-50 SL
C176	★87-018-109-010	CAP, CERA-SOL U 22P-50 SL
C177	★87-010-401-010	CAP, ELECT 1-50 SME
C178	★87-010-401-010	CAP, ELECT 1-50 SME
C179	★87-010-404-010	CAP, ELECT 4.7-50 SME
C180	★87-010-404-010	CAP, ELECT 4.7-50 SME
C181	★87-010-260-010	CAP, ELECT 47-25 SME
C182	★87-010-260-010	CAP, ELECT 47-25 SME
S10	80-AA1-635-110	SW, PUSH(LOUDNESS)
S11	80-AA1-635-110	SW, PUSH(DIRECT)
S12	80-AA1-635-110	SW, PUSH(MUTING)
VR1	★80-AA1-630-010	VOLUME, 100KB(VOLUME)
VR2	★80-AA1-631-010	VOLUME, 100K MN(BALANCE)
VR3	★80-AA1-632-010	VOLUME, 50K C(BASS)
VR4	★80-AA1-632-010	VOLUME, 50K C(TREBLE)
	===HP CIRCUIT BOARD SECTION===	
⚠	★87-033-213-010	CLAMP, FUSE
⚠C87	★87-019-112-010	CAP, SG 0.01 E
⚠F1	87-035-366-010	FUSE 2.5A 250V T E/K(E, K, Z)
J105	87-009-043-010	JACK 6.3 12.5-11.5(PHONES)
⚠S7	87-036-210-010	PUSH SW(POWER)
	===LED CIRCUIT BOARD SECTION===	
LED1	87-001-779-010	LED, SLH-56VC 70F165 (POWER INDICATOR)
	===POWER CIRCUIT BOARD SECTION===	
⚠	★87-033-213-010	CLAMP, FUSE(H)
⚠F4	87-035-366-010	FUSE 2.5A 250V T E/K(H)
⚠F5	87-035-366-010	FUSE 2.5A 250V T E/K(H)
C211	87-014-210-010	CAP, MYLAR 0.047-250(Z)
C212	87-014-210-010	CAP, MYLAR 0.047-250(Z)
⚠PT1	81-AA2-608-018	POWER TRANSFORMER E(E, Z)
⚠PT1	81-AA2-606-010	POWER TRANSFORMER H(H)
⚠PT1	81-AA2-609-010	POWER TRANSFORMER K(K)
	===AC VOLTAGE CIRCUIT BOARD SECTION===	
⚠S17	87-036-067-019	SLIDE SW(AC VOLTAGE)(H)

REF. NO.	PART NO.	DESCRIPTION
	===MISCELLANEOUS===	
⚠	★87-034-749-019	AC CORD H W/PLUG(H)
⚠	★82-187-797-019	AC CORD<E>(E, Z)
⚠	★87-034-781-018	AC CORD<E>(E, Z)
⚠	★87-187-796-019	AC CORD<K>(K)
⚠	★87-034-592-018	AC CORD<K>(K)
⚠	★87-085-184-010	BUSHING, AC CORD D(H)
⚠	★87-085-185-010	BUSHING, AC CORD E(E, K, Z)

※The ⮎ marked parts are compatible with each other.

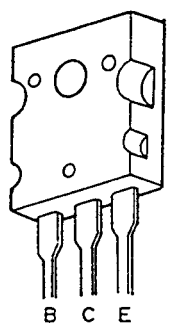
IC BLOCK DIAGRAM

IC,UPC1237H



2SA1015
2SA970
2SC1815
2SC2240
2SC3329

2SA1145
2SC2705



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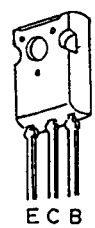
2SC3280



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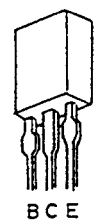
2SC3421



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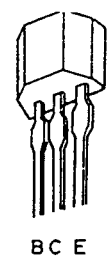
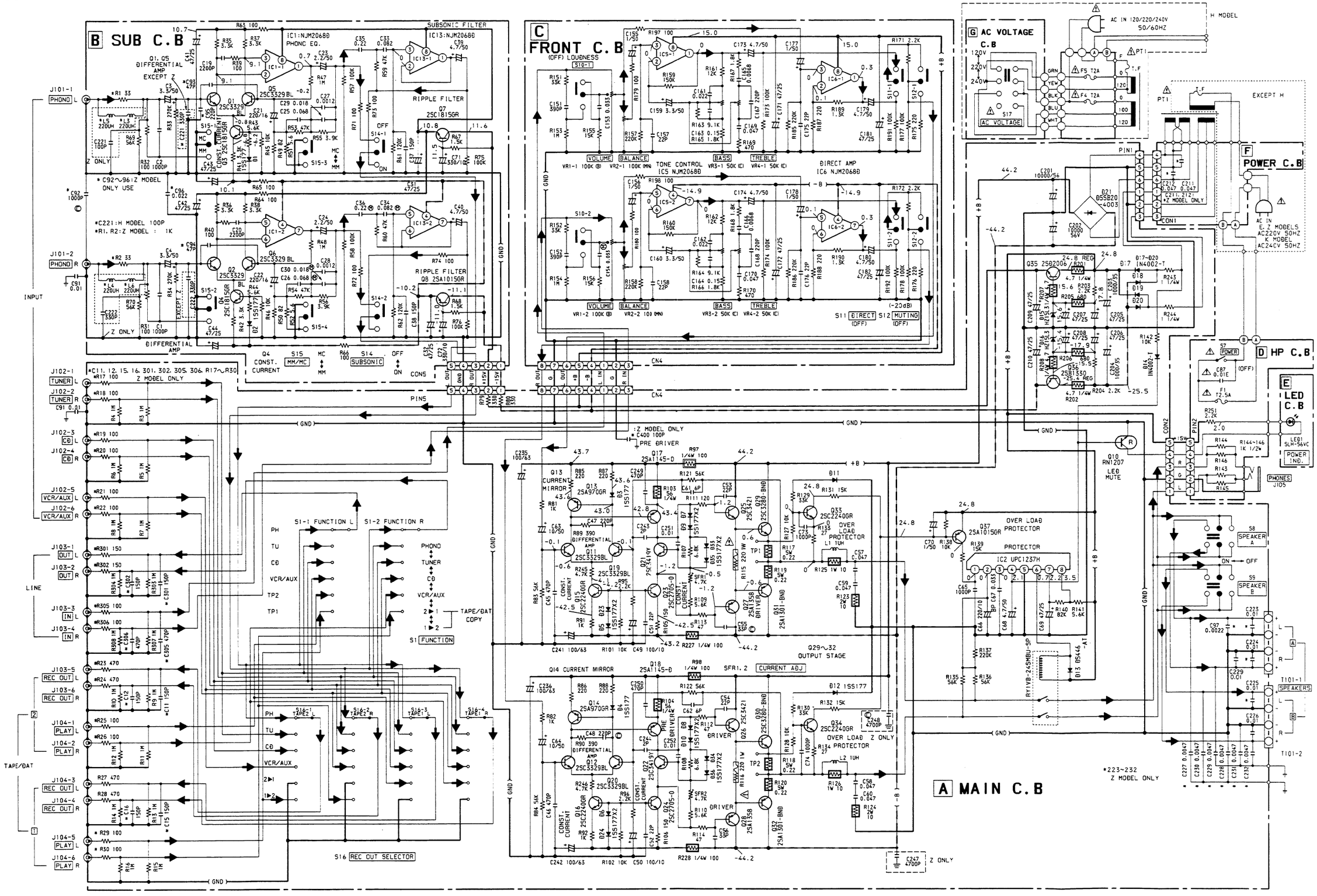
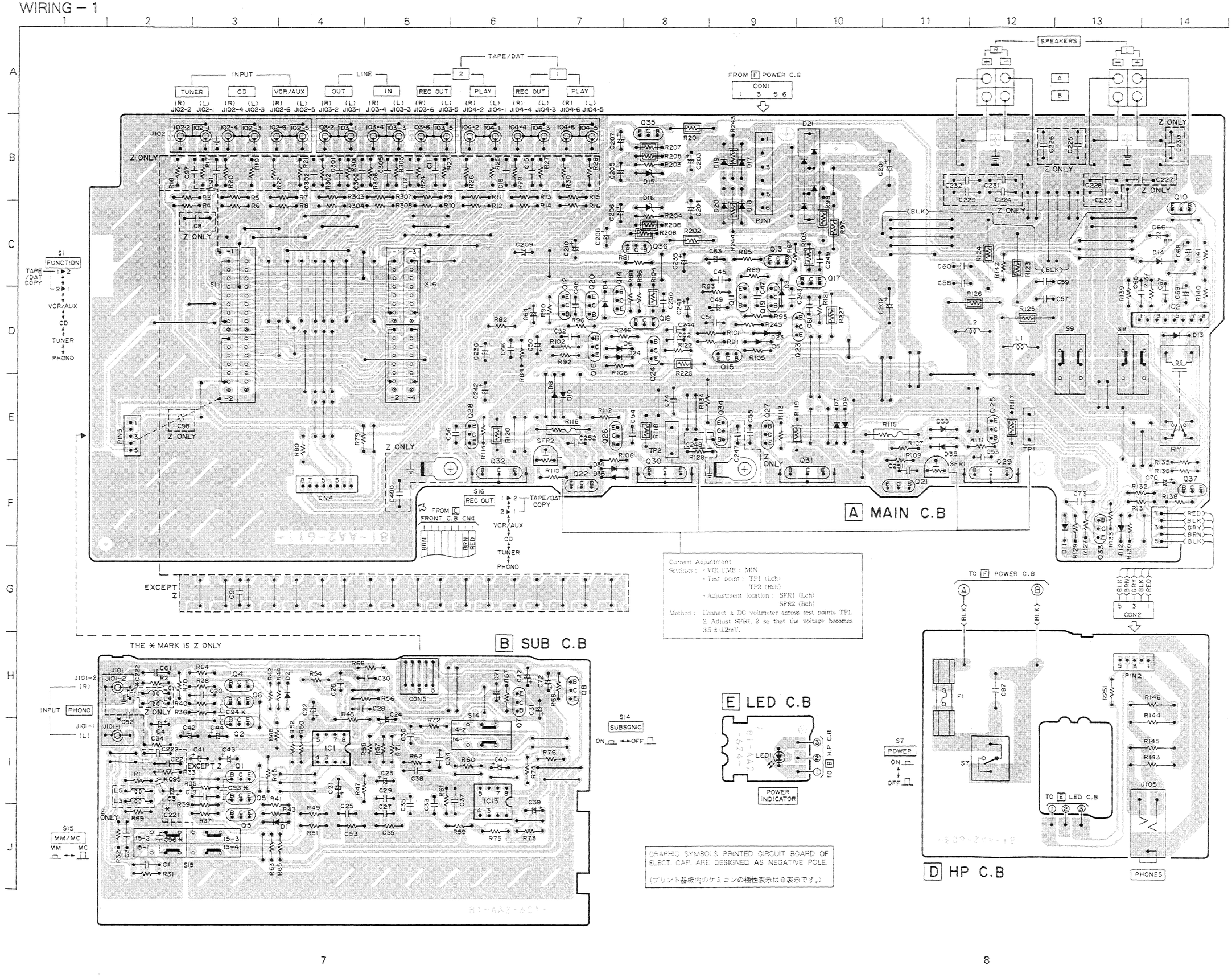
2SD2006

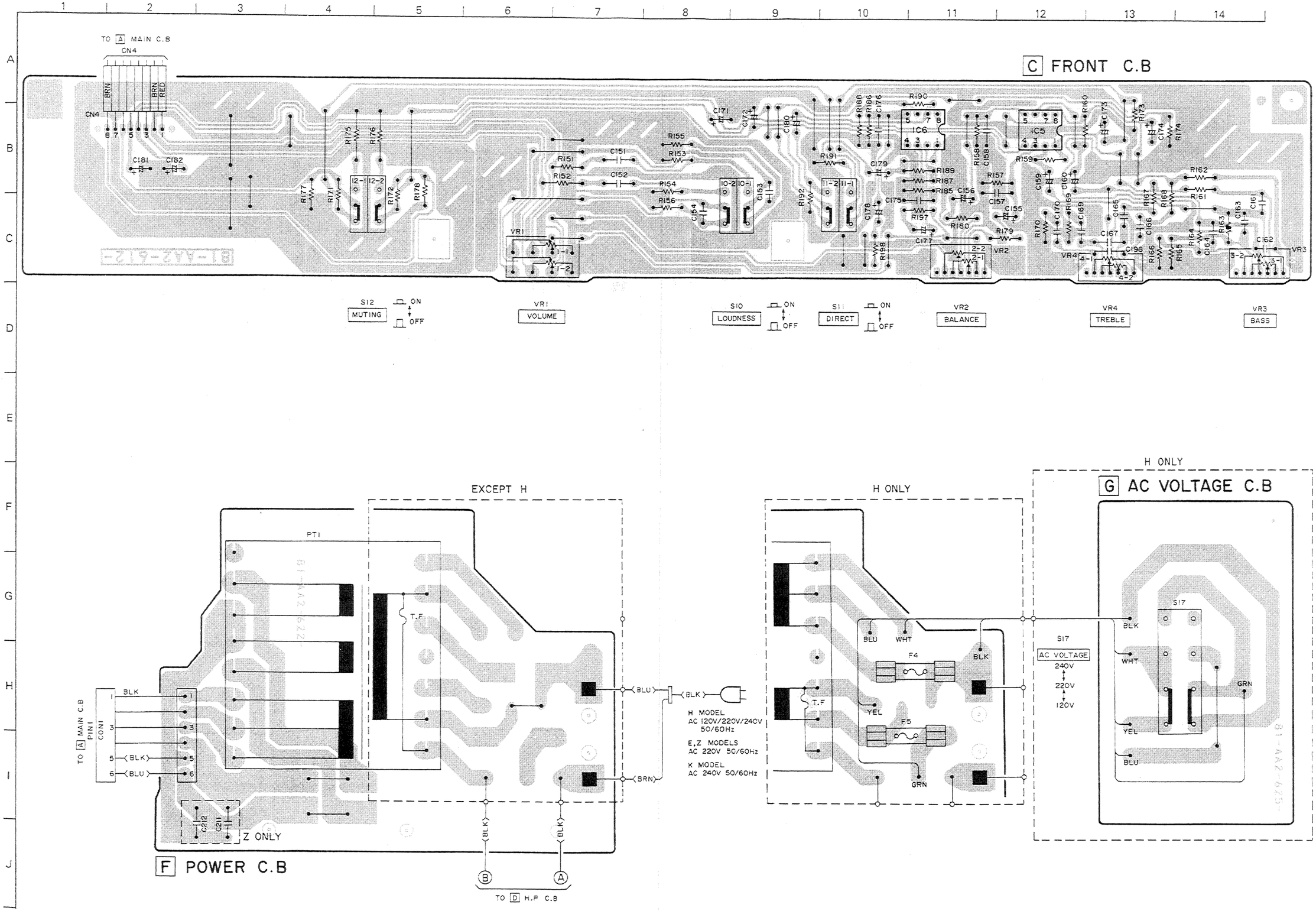


RN1207

SCHEMATIC DIAGRAM

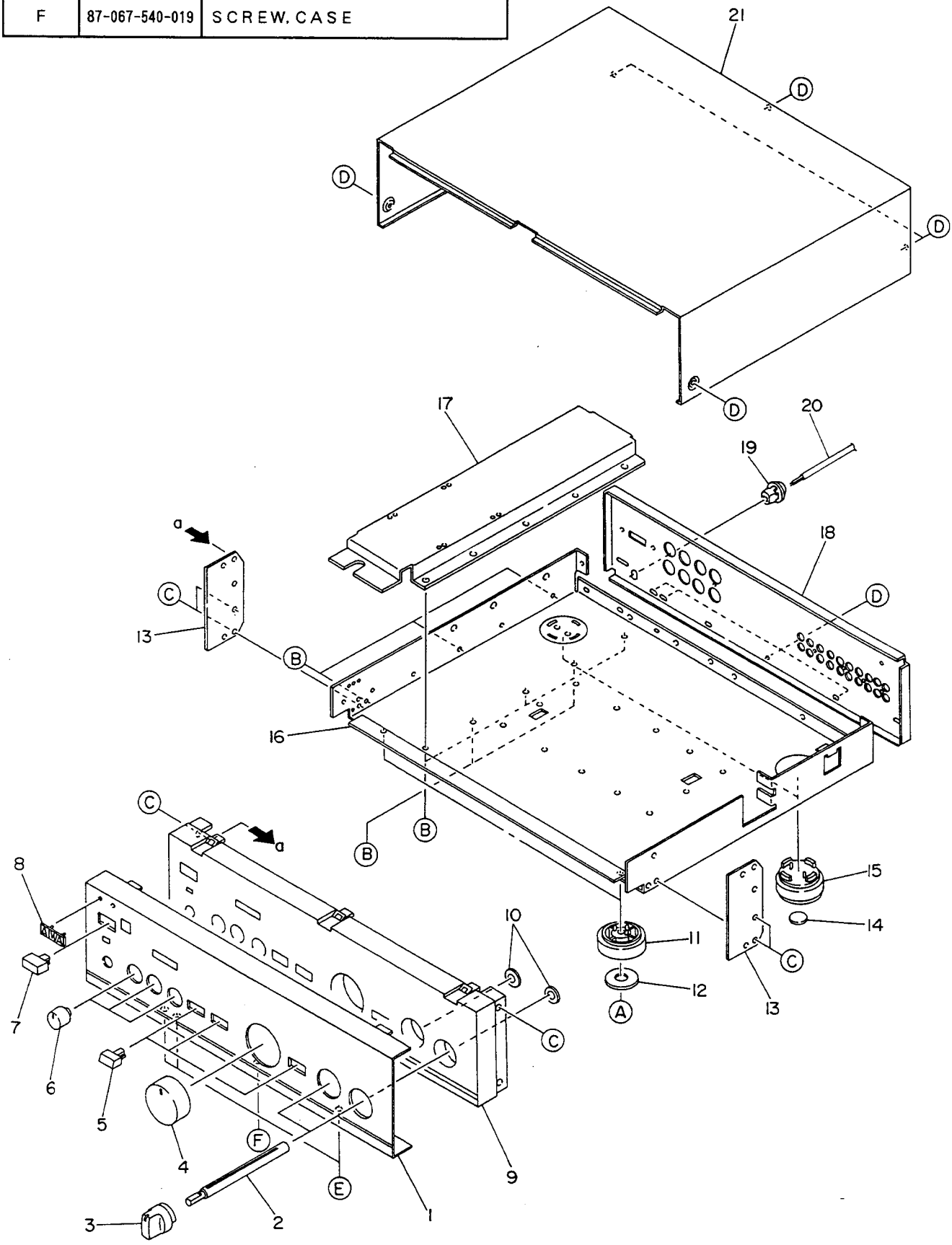



A MAIN C.B
B SUB C.B
E LED C.B
D HP C.B
INPUT
TUNER
CD
VCR/AUX
LINE
OUT
IN
TAPE/DAT
REC OUT
PLAY
SPEAKERS
FROM F POWER C.B
TO F POWER C.B
Z ONLY
EXCEPT Z
THE * MARK IS Z ONLY
S1 FUNCTION
TAPE /DAT COPY
VCR/AUX
CD
TUNER
PHONO
S14 SUBSONIC
S15 MM/MC
S16 REC OUT
S7 POWER
POWER INDICATOR
TO H.P C.B
TO E LED C.B
PHONES
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)
Current Adjustment
Settings : • VOLUME : MIN
• Test point : TP1 (Lch)
TP2 (Rch)
• Adjustment location : SFR1 (Lch)
SFR2 (Rch)
Method : Connect a DC voltmeter across test points TP1, 2. Adjust SFR1, 2 so that the voltage becomes 3.5 ± 0.2mV.


C FRONT C.B
TO A MAIN C.B
CN4
BRN
BRN
RED
S12 MUTING
ON
OFF
VR1 VOLUME
S10 LOUDNESS
S11 DIRECT
VR2 BALANCE
VR4 TREBLE
VR3 BASS
EXCEPT H
PT1
T.F
BLU
BLK
BRN
H MODEL
AC 120V/220V/240V
50/60Hz
E,Z MODELS
AC 220V 50/60Hz
K MODEL
AC 240V 50/60Hz
TO A MAIN C.B
PIN1
CON1
Z ONLY
F POWER C.B
TO D H.P C.B
H ONLY
G AC VOLTAGE C.B
S17
AC VOLTAGE
240V
220V
120V
WHT
YEL
GRN
F4
F5

EXPLODED VIEW – 1

REF. NO.	PART NO.	DESCRIPTION
A	87-067-579-010	BVT2+3–8 W/O SLOT
B	87-067-689-010	BVTT+3–8
C	87-591-094-410	QIT+3–6
D	87-067-660-010	BVT2+3–8 W/O SLOT (B)
E	87-743-096-410	UT2+3 –10 (B)
F	87-067-540-019	SCREW, CASE



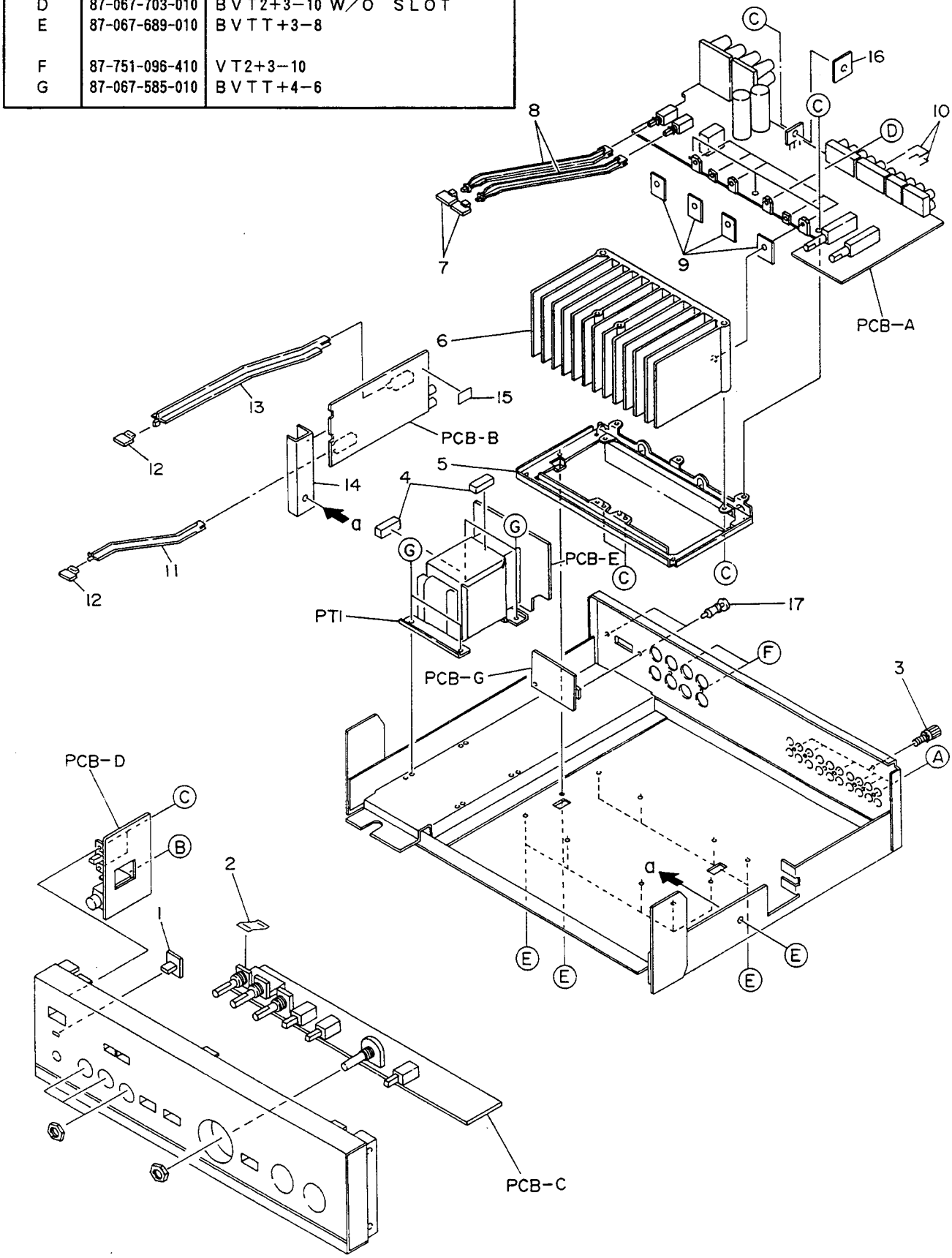
MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★81-AA2-001-010	PANEL,FRONT	※	1
	1-2	★80-AA1-205-010	ROD,SELECT		2
	1-3	★80-AA1-007-019	KNOB,SELECT		2
	1-4	★80-AA1-005-010	KNOB,VOLUME		1
	1-5	★80-AA1-008-019	BUTTON,MUTE		3
	1-6	★80-AA1-006-019	KNOB,BALANCE		3
	1-7	★81-DS1-008-010	BUTTON,POWER		1
	1-8	★84-764-009-119	BADGE,AIWA		1
	1-9	★80-AA1-001-110	CABINET,FRONT		1
	1-10	★81-663-213-019	CLOTH,DIA 18-8.7		2
	1-11	★84-738-022-010	FOOT		2
	1-12	★84-731-027-010	FELT,FOOT		2
	1-13	---	HOLDER,SIDE		2
	1-14	★80-DS3-206-019	CUSHION,G DIA 15-1		2
	1-15	★80-DS3-014-119	FOOT,REAR ST		2
	1-16	---	CHASSIS,MAIN		1
	1-17	---	HOLDER,PT		1
	1-18	★81-AA2-006-019	PANEL,REAR (H)	※	1
	1-18	★81-AA2-003-019	PANEL,REAR (E)	※	1
	1-18	★81-AA2-008-019	PANEL,REAR (EE)	※	1
	1-18	★81-AA2-010-019	PANEL,REAR (EN)	※	1
	1-18	★81-AA2-004-019	PANEL,REAR (K)	※	1
	1-18	★81-AA2-011-019	PANEL,REAR (KN)	※	1
	1-18	★81-AA2-005-019	PANEL,REAR (Z)	※	1
	1-18	★81-AA2-012-019	PANEL,REAR (ZN)	※	1
	1-19	★87-085-185-010	BUSHING,AC CORD (EXCEPT H)		1
	1-19	★87-085-184-010	BUSHING,AC CORD (H)		1
	1-20	★87-034-749-019	CORD,AC (H)		1
┌	1-20	★87-034-781-018	CORD,AC (E,Z)		1
└→	1-20	★82-187-797-019	CORD,AC (E,Z)		1
┌	1-20	★87-034-592-018	CORD,AC (K)		1
└→	1-20	★82-187-796-019	CORD,AC (K)		1
	1-21	★80-AA1-003-019	CABINET,STEEL		1

※The ┌ marked parts are compatible with each other.
└→

EXPLODED VIEW – 2

REF. NO.	PART NO.	DESCRIPTION
A	87-067-660-010	BVT2+3-8 W/O SLOT (B)
B	87-561-096-210	VFT1+3-10 DIA 10
C	87-067-579-010	BVT2+3-8 W/O SLOT
D	87-067-703-010	BVT2+3-10 W/O SLOT
E	87-067-689-010	BVTT+3-8
F	87-751-096-410	VT2+3-10
G	87-067-585-010	BVTT+4-6



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	★89-AA1-022-119	GUIDE,LIGHT MUTE		1
	2-2	★80-AA1-618-010	SHEET,SHIELD 20-17-0.08		1
	2-3	---	TERMINAL,EARTH		1
	2-4	★87-063-160-010	CUSHION,S 15-35-10		2
	2-5	---	HOLDER,HEAT SINK		1
	2-6	---	HEAT SINK,MAIN		1
	2-7	★80-MK4-024-019	BUTTON,TAPE		2
	2-8	★80-AA1-204-019	ROD,SPEAKER		2
	2-9	---	SHEET		4
	2-10	★87-009-389-010	JACK PIN SHORT-14		2
	2-11	★81-AA2-202-010	ROD,SUB	※	1
	2-12	★81-AA2-007-010	BUTTON,MM/MC	※	2
	2-13	★81-AA2-201-010	ROD,MM/MC	※	1
	2-14	---	HOLDER,P.C.B		1
	2-15	★81-783-227-019	MYLAR 10-10-0.2		1
	2-16	---	HEAT SINK		1
	2-17	★87-084-063-010	RIVET NYLON		2

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★81-AA2-902-019	INSTRUCTION BOOKLET,H (H)	※	1
	2	★81-AA2-901-018	INSTRUCTION BOOKLET,EKZ (E,K,Z)	※	1
	3	★87-042-062-019	PLUG,ADAPTOR S-I6115 (H)		1
	4	★87-032-845-019	PLUG,CONVERSION (HJ)		1